

ABSTRACT

Described herein are novel ammonia-oxidizing bacteria as well as isolated nucleotide sequences representative of 16S rDNA of these ammonia-oxidizing bacteria. Particular bacteria of the present invention are tolerant of freshwater environments, saltwater environments or both.

- 5 Furthermore, in various embodiments, various bacteria of the present invention are capable of surviving a freeze-drying process, and may remain viable thereafter. Compositions including various combinations of the bacteria are further described, as are polymerase chain reaction (PCR) primers and oligonucleotide probes that may be used to detect these bacteria based on their 16S rDNA.